

Clean Coal Power Initiative

Program Mission

Coal is the most abundant U.S. energy resource, with domestic reserves exceeding the energy potential of the world's oil reserves. About 90% of all coal produced in the U.S. is used for electricity generation, and over half of our Nation's electricity is produced by coal-fired power plants. Meeting our Nation's rising demands for clean, reliable, and affordable electricity will require the use of coal for the foreseeable future. We must therefore develop and demonstrate technologies that will enable the continued use of coal to meet our growing demand for electricity in an environmentally sound manner.

The Bush Administration is advancing its new vision in clean coal research. The Clean Coal Power Initiative (CCPI) is an effort within the Department of Energy's Fossil Energy program that combines industry investments in research and development with federal matching funds for research, development and demonstration of advanced technologies on coal-fired power plants. As part of this Presidential Initiative, the administration is requesting \$130 million in FY 2004 to fund joint government-industry-funded research projects on new technologies that can enhance the reliability, efficiency, and environmental performance of coal-fired power generators. FY 2004 funding will support the second round of projects under the Clean Coal Power Initiative, incorporating the latest advances in clean coal technologies. The CCPI responds to the National Energy Policy call to address the reliability and affordability of the Nation's electricity supply, particularly from its coal based generation, and is a key component of the President's commitment to research and development of clean coal technologies to meet this challenge. By enabling advanced technology to overcome technical and financial risks and bringing them to the point of commercial readiness, the CCPI facilitates the movement of technologies into the market place that are emerging from the core research and development activities and directly responds to President's Clear Skies Initiative and Global Climate Change Initiative to reduce emissions of air pollutants and carbon dioxide.

The CCPI is a cooperative, cost shared program between the government and industry to rapidly research, develop, and bring to commercial readiness emerging technologies in coal-based power generation. The Nation's power generators, equipment manufacturers, coal producers and others help identify the most critical barriers to coal's use in the power sector.

Beginning with the FY 2003 budget, the activities formerly carried out under the Clean Coal Technology account have been shifted to CCPI in keeping with the goals of the President's Management Agenda to consolidate programs and eliminate duplication. This change will result in improved coordination and management of the coal R&D efforts. Existing commitments to projects will be carried out under this program. However, in the event of deobligations or other cost savings, any prior year funds will be made available to the CCPI program for the next round of solicitation.

In FY 2003, the first round of CCPI projects will commence. NEPA will be completed for three of six PPII projects and most PPII projects will be under construction or in operation. In FY 2004, the first round of CCPI projects will be underway and CCPI funding will be in place to support a solicitation for a second round of projects.

Program Strategic Performance Goals

CCPI is a crosscutting program which is designed to advance technologies from across all technology areas. Though the projects that will be funded with the FY 2004 funding have yet to be selected, it is expected that the technologies that are ultimately funded in this round will support PSPGs ER 4-1, ER 4-2, and ER 4-3. To aid in the management and performance tracking of the CCPI program, a set of annual goals along with a Midterm Performance Goal, which is equivalent in scope to a PSPG, have been developed. They are:

Midterm Performance Goal: Develop advanced coal-based power generation technologies that: improve efficiency from 2002 baseline of 40% to 50% by 2010, with environmental and economic performance capable of achieving 90% Hg removal at a cost of 70% of current technology by 2010, 0.15 lb/MMBtu NO_x at 75% of the cost of current technology (Selective Catalytic Reactors), and lower capital costs for gasification technologies from \$1200 per kilowatt of capacity;; co-produce heat, fuels, chemicals or other useful byproducts; and, provide a deployment-ready suite of advanced technologies that can produce substantial near-, mid-, and long-range economic and environmental public benefits.

Annual Performance Targets and Results

FY 2002 Results	FY 2003 Updated Targets	FY 2004 Targets
Complete construction and start operations of Circulating Atmospheric Fluidized Bed demonstration project at Jacksonville, FL.	Complete CCPI Round 1 solicitation, proposal evaluations and project selections to assemble the initial portfolio of advanced technologies capable of improving the economic and environmental performance of coal-based electric power generation facilities.	Initiate at least 60% of the industrial projects selected under the competitive CCPI solicitation, and initiate a second competitive solicitation.
	Complete NEPA process for 3 out of the 6 active PPII projects and initiate construction or operations phases for several of the projects.	Initiate construction or operations for all projects under the competitive PPII for demonstration of technologies with potential to improve the economic, environmental performance, or efficiency of coal-based power plants.
	Complete sufficient implementation activities on remaining projects to resolve any barrier issues.	Complete demonstration tests under the CCT program for a coal-based advanced circulating fluidized bed combustor power system and provide comprehensive documentation of the system and its efficiency, economics, and environmental performance for use by industry
	Complete demonstration tests on the LPMcOH coal-to-	

FY 2002 Results	FY 2003 Updated Targets	FY 2004 Targets
	methanol conversion project and provide comprehensive documentation of the system and its efficiency, economics, and environmental performance for use by industry in assessing the merit for further commercial deployment of the technology.	in assessing the merit for further commercial deployment of the technology.

Funding Profile

(dollars in thousands)

	FY 2002 Comp. Approp.	FY 2003 Request	FY 2004 Base	FY 2004 Request	FY 2004 Request vs. Base	
					\$ Change	% Change
Clean Coal Power Initiative	\$146,065	\$150,000	\$150,000	\$130,000	\$-20,000	-13.3%
Total, Clean Coal Power Initiative	\$146,065	\$150,000	\$150,000	\$130,000	\$-20,000	-13.3%

Funding by Site

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$Change	%Change
All Other	\$146,065	\$150,000	\$130,000	\$-20,000	-13.3%
Total, Clean Coal Power Initiative	\$146,065	\$150,000	\$130,000	\$-20,000	-13.3%

Site Description

All Other

The Department's Clean Coal Power Initiative program, within the Fossil Energy Research and Development program, funds research at major performers at non-DOE locations. Examples of these performers include Otter Tail Power Corp. with UNDEERC and W. L. Gore & Associates, Tampa Electric, Universal Aggregates, LLC., Sunflower Electric Power Corp., CONSOL Energy, Inc., TIAX, LLC., JEA, Air Products Liquid Phase Conversion Co., and Kentucky Pioneer Energy, Ltd. with Fuel Cell Energy and Global Energy.

Detailed Program Justification

(dollars in thousands)

	FY 2002	FY 2003	FY 2004
Clean Coal Power Initiative	146,065	150,000	130,000
■ Clean Coal Power Initiative	144,565	148,500	128,700
<p>In support of the President's Coal Research Initiative, continue the Clean Coal Power Initiative (CCPI) to research, develop, and bring to commercial readiness advanced clean coal-based technologies that enhance electricity reliability, increase generation capacity, and provide clean, affordable power. Provide funding to support a second round of projects under the Clean Coal Power Initiative (CCPI), incorporating the latest advances in clean coal technologies, and issue the second solicitation. <i>Participants to be determined.</i></p> <p>FY 2003 and FY 2002, within the CCPI program, issues the initial competitive solicitation and make selections of projects. Initiated pre-award activities on all projects. Began planning activities for the second solicitation. Within the Power Plant Improvement Initiative (PPII) program, awarded cooperative agreements to 4 of the 6 active projects and completed NEPA activities on 3 of those 4 projects. Began test operations on the Advanced Hybrid Particulate Collector and began construction on the Neural Network-Sootblower Optimization project. In the Clean Coal Technology (CCT) program, completed the Environmental Impact Statement for the Kentucky Pioneer project and began fabrication of the fuel cell portion of the project. Continued test operations on the Circulating Fluid Bed Combustor and LPMeOH coal-methanol projects. <i>Participants included: Otter Tail Power Corp. with UNDEERC and W. L. Gore & Associates, Tampa Electric, Universal Aggregates, LLC., Sunflower Electric Power Corp., CONSOL Energy, Inc., TIAX, LLC., JEA, Air Products Liquid Phase Conversion Co., and Kentucky Pioneer Energy, Ltd. with Fuel Cell Energy and Global Energy.</i></p>			
■ Program Support	1,500	1,500	1,300
Fund technical and program management support.			
Total, Clean Coal Power Initiative	146,065	150,000	130,000

Explanation of Funding Changes

FY 2004 vs. FY 2003 (\$000)

Clean Coal Power Initiative

■ Decrease in Clean Coal Power Initiative due to more focused second round solicitation	-19,800
■ Program Support	-200
Total Funding Change	-20,000